Surname		Centre Number	Candidate Number
Other Names			0

GCSE

wjec cbac

3300U20-1

A17-3300U20-1

MATHEMATICS
UNIT 2: CALCULATOR-ALLOWED
FOUNDATION TIER

MONDAY, 13 NOVEMBER 2017 – MORNING

1 hour 30 minutes

ADDITIONAL MATERIALS

A calculator will be required for this examination.
A ruler, protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

If you run out of space, use the continuation page at the back of the booklet. Question numbers must be given for all work written on the continuation page.

Take π as 3·14 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

In question **5**, the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	8	
2.	2	
3.	2	
4.	2	
5.	5	
6.	3	
7.	6	
8.	2	
9.	2	
10.	8	
11.	4	
12.	5	
13.	3	
14.	5	
15.	3	
16.	5	
Total	65	

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Formula List - Foundation Tier

Area of trapezium $= \dfrac{1}{2}(a + b)h$

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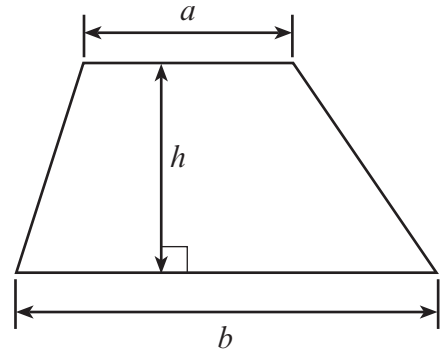
1. *(a)* Write twenty million in figures. [1]

....

(b) Write 2·46 in words. [1]

....

(c) Insert one pair of brackets into the calculation below to make it correct. [1]

$$5 \times 4 + 2 = 30$$

(d) In each of the following questions, use all of the digits 5, 1, 3 and 6 to make four-digit numbers.

    (i) What is the largest number that can be made? [1]

    ....

    (ii) What is the largest number that can be made which is divisible by 2? [1]

    ....

(e) Write down the remainder when 488 is divided by 16. [1]

....

....

(f) Use either the symbol $<$ or $>$ to make each statement true. [2]

5	....	2
4·3	....	4·25
−8	....	4
−7	....	−6

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2.

D
•

• C

A

B
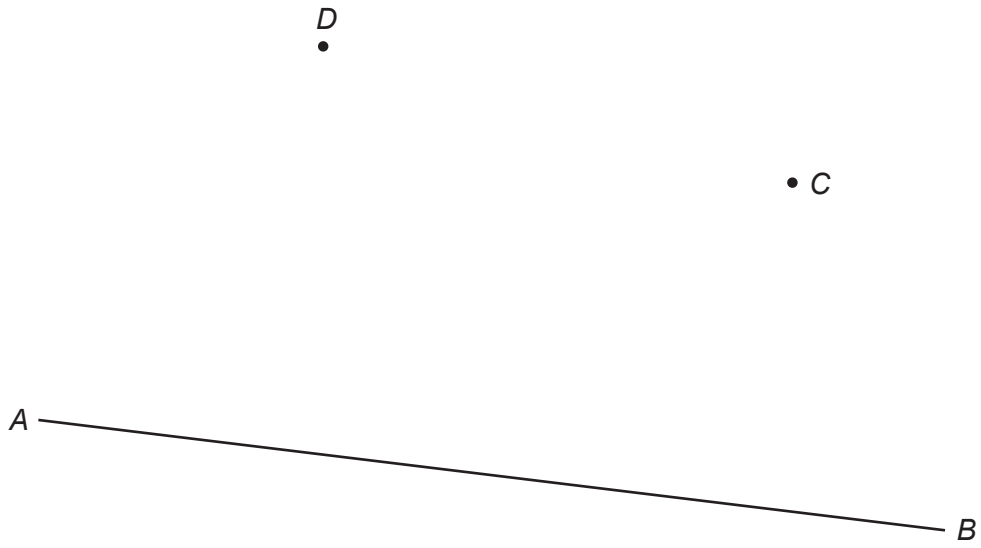
(a) Draw a line parallel to *AB,* through the point *C*.   [1]

(b) Draw a line perpendicular to *AB*, through the point *D*.   [1]

3. (a) Write down the next term in the sequence below.   [1]

1   5   9   13   ....

(b) Describe in words the rule for continuing the sequence.   [1]

....

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4. Here are some shapes.
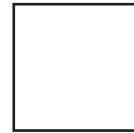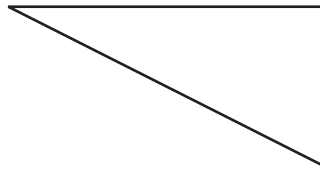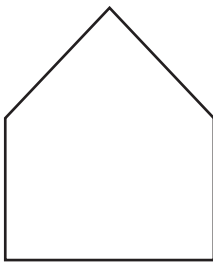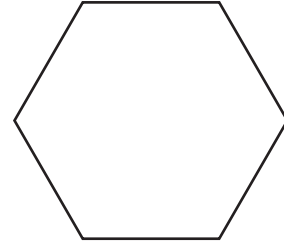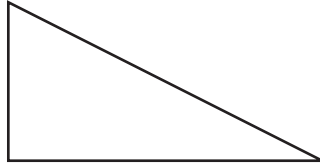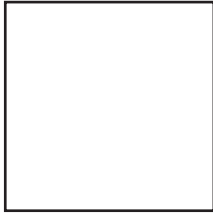
Circle either TRUE or FALSE for each of the following statements. [2]

STATEMENT		
The squares are congruent.	TRUE	FALSE
The triangles are congruent.	TRUE	FALSE
The pentagon is regular.	TRUE	FALSE
The triangles are isosceles.	TRUE	FALSE

(3300U20-1) **Turn over.**

5. *In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.*

A class has 32 pupils.
18 are boys.
The others are girls.

12 pupils from this class went on a trip.
One of these 12 pupils is chosen at random.
There is an **even chance** that the chosen pupil is a girl.

How many **girls** stayed in class?   [3 + 2 OCW]

....

....

....

....

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....

The number of girls who stayed in class is ....

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6. The grid shows part of a straight line that passes through the points *A* and *B*.
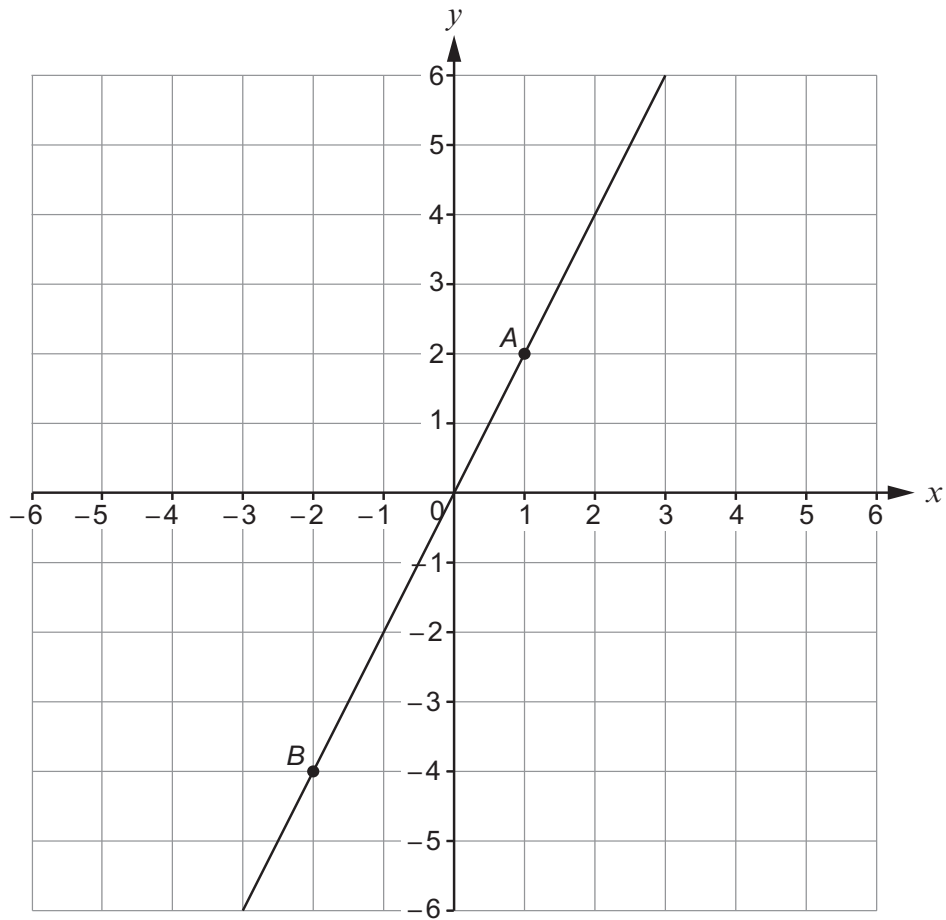
(a) What are the coordinates of point *A*? [1]

....

(b) What are the coordinates of point *B*? [1]

....

(c) Rhys thinks that the line would go through the point (6, 9).

Is Rhys correct? YES ☐ NO ☐

Explain your reasoning. [1]

....

....

....

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7. *(a)* Kian thinks of a number.
A quarter of his number is 37.

What is 10% of Kian's number?
You must show all your working. [3]

....

....

....

....

....

....

....

10% of Kian's number is ....

(b) Sophie thinks of a number between 1 and 9.
She multiplies her number by six and then adds 25.
Her final answer can be divided exactly by 7.

What number did Sophie first think of? [3]

....

....

....

....

....

....

....

Sophie's number is ....

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8. Write 4·47367 correct to:

(a) 1 decimal place [1]

....

(b) the nearest whole number [1]

....

9. Circle the correct answer for each of the following statements.

(a) $x + x + x + x + 2x$ can be simplified to [1]

$6x$ $\qquad$ x^6 $\qquad$ $2x^6$ $\qquad$ 6^x $\qquad$ $5x$

(b) When $t = 185$, the value of $21t$ is [1]

$185t$ $\qquad$ $21\,185$ $\qquad$ $18\,521$ $\qquad$ 206 $\qquad$ $3\,885$

(3300U20-1) **Turn over.**

10. *(a)* Calculate 8% of £3.25. [3]

....

....

....

(b) Evaluate $0 \cdot 65 \times 280 - \dfrac{2}{9}$ of 513. [3]

....

....

....

....

....

....

(c) Calculate $3 \cdot 5^2 - \sqrt{8 \cdot 6}$.

Give your answer correct to 2 decimal places. [2]

....

....

....

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11. *(a)* What is the difference between the following times?

'07:30 on 1st November 2017'   and   '13:20 on 3rd November 2017'

Give your answer in days, hours and minutes. [2]

....

....

....

....

....

....

.... days   .... hours   .... minutes

(b) Divide 16 hours 20 minutes by 5.

Give your answer in hours and minutes. [2]

....

....

....

....

....

....

.... hours   .... minutes

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Turn over.

12. *(a)*

| 11 | 23 | 5 | 9 | 18 | 20 | |

A number is to be written on the blank card.

The mode and the median of all seven numbers are both the same.

Find one possible number that can be written on the blank card. [1]

Number on card ....

(b) One extra number is added to the following list of three numbers.

6   8   13

The mean of the new list of four numbers is 1 less than the mean of the original three numbers.

What number was added to the list? [4]

Number added ....

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13. Calculate the area of the trapezium shown below.
You must give the units of your answer. [3]

17·3 cm

9·4 cm

8·2 cm

Diagram not drawn to scale

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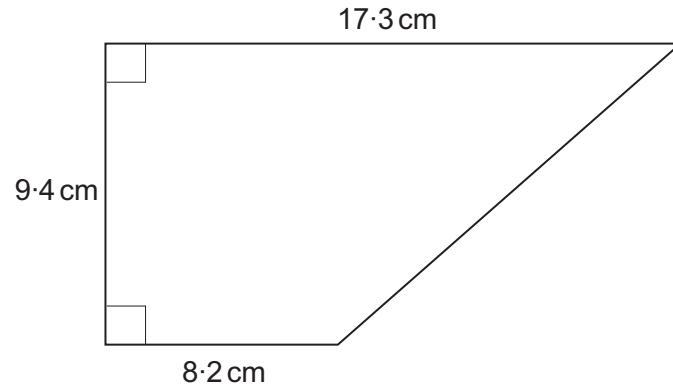
14. *(a)* Express 54 as a percentage of 129.
Give your answer to the nearest whole number. [3]

....

....

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....

(b) Share 25·8 kg in the ratio 5 : 1. [2]

....

....

....

....

....

.... kg and .... kg

15. The following cards spell out the name Ystradgynlais.

| Y | S | T | R | A | D | G | Y | N | L | A | I | S |

In an experiment, the cards are turned face down and rearranged.
A card is selected at random and the letter on the card is recorded.

The experiment is carried out 325 times.

How many times would you expect the letter **Y** to be recorded? [3]

....

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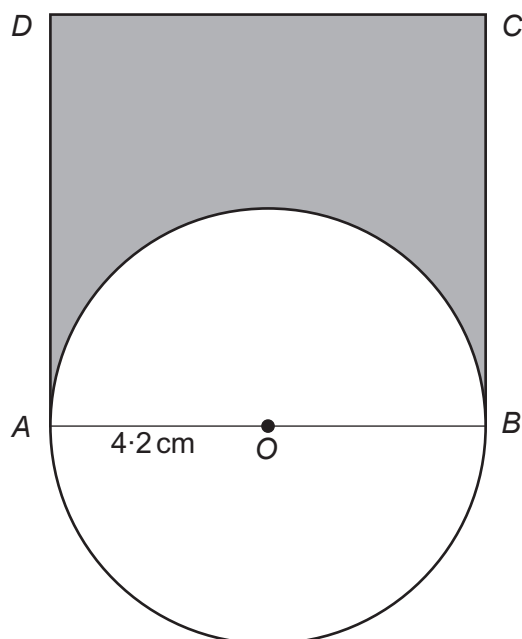
(3300U20-1) **Turn over.**

16. *AB* is the diameter of a circle, centre *O*, with radius *OA* = 4·2 cm.
ABCD is a square.

Diagram not drawn to scale

Calculate the area of the shaded region.
You must show all your working. [5]

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END OF PAPER

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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

18

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